



(19)

(11) Publication number:

**11046782 A**

Generated Document.

## PATENT ABSTRACTS OF JAPAN

(21) Application number: **09210603**

(51) Intl. Cl.: **C12P 17/02 A01G 7/00 C12S 3/00**

(22) Application date: **05.08.97**

(30) Priority:

(43) Date of application  
publication: **23.02.99**

(84) Designated contracting  
states:

(71) Applicant: **MITSUI CHEM INC**

(72) Inventor: **KODAMA OSAMU  
TAMOGAMI SHIGERU  
HARA YASUHIRO  
TABATA HOMARE**

(74) Representative:

### **(54) PROMOTION OF PRODUCTION OF PLATE SECONDARY METABOLITE BY TREATMENT WITH RADICAL FORMER**

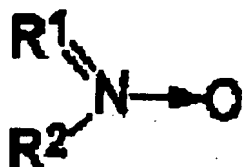
(57) Abstract:

**PROBLEM TO BE SOLVED:** To promote the production of a plant secondary metabolite such as an alkaloid, a terpenoid, etc., useful as medicines, cosmetics, food additives, agrochemicals, etc. by treating a part or all of a plant body or a cultured tissue or a cell thereof with a radical former.

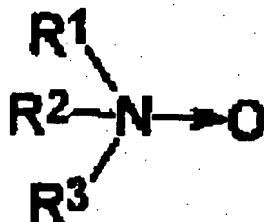
**SOLUTION:** A part or all of a plant body or a cultured tissue and/or a cell thereof are treated with a radical former comprising an N-oxide derivative represented by formula I [R1 and R2 are each a 1-12C alkyl, a (substituted)aryl or a (substituted)arylalkyl] or formula II (R3 is the same kind as that of R1), etc., at a concentration thereof within the range of 0.001-50 mM to thereby increase the content of a secondary metabolite contained in the plant body or the cultured tissue and/or cell thereof. Furthermore, a rice plant which is a plant of the family

Gramineae is used as the plant body to increase the content of a phytoalexin such as sakuranetin as the secondary metabolite or *Taxus baccata* or *Taxus media*, etc., which is a plant of the genus *Taxus* is used as the plant body to increase the content of a taxane type diterpene having anticancer actions such as a taxol as the secondary metabolite.

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II

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Title: **JP11046782A2: PROMOTION OF PRODUCTION OF PLATE SECONDARY METABOLITE BY TREATMENT WITH RADICAL FORMER**

Country: **JP Japan**

Kind: **A**

Inventor: **KODAMA OSAMU;  
TAMOGAMI SHIGERU;  
HARA YASUHIRO;  
TABATA HOMARE;**

Assignee: **MITSUI CHEM INC**  
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Published / Filed: **Feb. 23, 1999 / Aug. 5, 1997**

Application Number: **JP1997000210603**

IPC Code: **C12P 17/02; A01G 7/00; C12S 3/00;**

Priority Number: **Aug. 5, 1997 JP1997000210603**

Abstract:

**PROBLEM TO BE SOLVED:** To promote the production of a plant secondary metabolite such as an alkaloid, a terpenoid, etc., useful as medicines, cosmetics, food additives, agrochemicals, etc. by treating a part or all of a plant body or a cultured tissue or a cell thereof with a radical former.

**SOLUTION:** A part or all of a plant body or a cultured tissue and/or a cell thereof are treated with a radical former comprising an N-oxide derivative represented by formula I [R1 and R2 are each a 1-12C alkyl, a (substituted)aryl or a (substituted)arylalkyl] or formula II (R3 is the same kind as that of R1), etc., at a concentration thereof within the range of 0.001-50 mM to thereby increase the content of a secondary metabolite contained in the plant body or the cultured tissue and/or cell thereof. Furthermore, a rice plant which is a plant of the family Gramineae is used as the plant body to increase the content of a phytoalexin such as sakuranetin as the secondary metabolite or *Taxus baccata* or *Taxus media*, etc., which is a plant of the genus *Taxus* is used as the plant body to increase the content of a taxane type diterpene having anticancer actions such as a taxol as the secondary metabolite.

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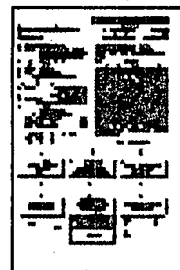
Family: **None**

Other Abstract Info: **CHEMABS 130(17)222242X CHEMABS 130(17)222242X DERABS C1999-208117 DERABS C1999-208117**



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